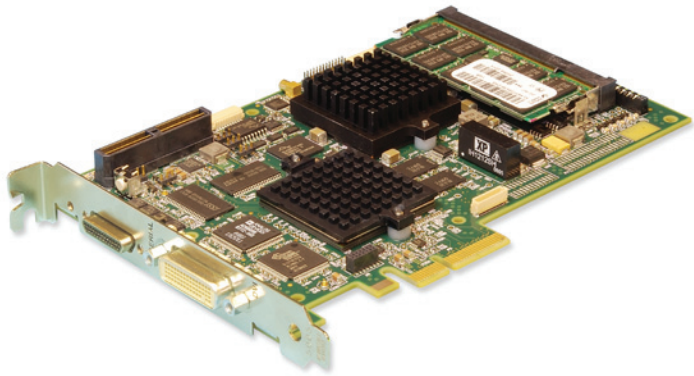
GE
Intelligent Platforms



ADEPT74

High resolution PCI Express automatic video tracker/image processor

Features

- High resolution digital inputs via DVI-D or CameraLink
- Simultaneous multiple target detection and tracking
- Statistical target enhancement pre-processors for high clutter rejection
- Intelligent "Breaklock" and re-acquisition algorithms
- Platform drive filters
- Onboard serial links
- Composite video input/output
- Symbology overlay
- PCI Express half length card
- PC control software

The ADEPT74 introduces high resolution digital image quality and multi-target tracking to the extensive range of GE Intelligent Platforms rugged, real-time video trackers and image processors.

The card is particularly well suited to evaluation, simulation, training and range instrumentation applications.

CameraLink, DVI-D and composite video inputs provide widespread compatibility with both the latest and legacy sensors.

The latest high speed processor is coupled with a brand new memory architecture to support sophisticated image processing operations in real time on high resolution images.

This commercial off-the-shelf (COTS) card fits into any standard PC with a PCI Express bus.

In common with other products in the ADEPT range, the ADEPT74 incorporates two axis PID platform drive filters and onboard serial links.

Intuitive menu-driven PC software allows easy set-up and development.

The ADEPT tracker family has been developed to provide the highest performance solutions in the smallest, fully environmentally proven hardware packages. Field-proven on military and civilian platforms on land, sea and air, GE Intelligent Platforms' image processing products incorporate the benefits of unrivalled application experience.

ADEPT74 – High resolution PCI Express automatic video tracker/image processor

Functionality/Modes

Target Cueing
- Optional multi-target simultaneous cue and tracking windows
  - Cue window movable to any FoV position
  - Size variable from 4% to 90% of the FoV with manual or adaptive modes (dependent upon selected algorithm)
  - Number of simultaneous cued targets: 5

Target Tracking
- Optional multi-target tracking (concurrent with target cueing)
- Track algorithm selectable from:
  - Centroid
  - Phase Correlation
  - Combined
  - SceneLock

Track Windows
- Multiple track windows with positions automatically controlled to follow targets to any FoV position
- Track window size variable from 4% up to 85% of the FoV with manual or adaptive modes (dependent upon selected algorithm)
- Selectable track pre-processor providing statistical target enhancement with automatic, bipolar, positive and negative threshold options.

Platform Filters
- Configurable 2-axis PID filters with rate demand or position demand output

Boresight
- Reference for the determination of the track errors
- Movable for offset tracking.

Breaklock/Coast
- Automatic track-loss detection and re-acquisition

Specifications

Electrical Interface

Digital ADEPT74

Video Input
- Digital input (1)
  - DVI-D
  - Resolutions 1024x768 P60 and 800x600 P60

Video Output
- Digital output (1)
  - DVI-D
  - Resolutions 1024x768 P60 and 800x600 P60

Hybrid ADEPT74

Video Inputs
- Analog Input (1)
  - Composite video 1.0Vp-p, 625/525 Line, CCIR, PAL or RS170, NTSC
- CameraLink Input (1)
  - Base CameraLink

Video Output
- Analog Output (1)
  - Composite video 1.0 V p-p into 75 Ohm

Control Interfaces

Serial Interfaces
- 4 off RS232 and/or RS422, asynchronous, up to 115,200 baud, providing access to all configuration and status data

PCI Express Interface
- Specification Rev 1.1

Power Requirements
- +12V, 1.4A

Board Size

PCI Express full height half length card as per the PCI Express Card Electromechanical Specification Revision 1.1

Connectors
- Standard PCI Express x4 connector

DVI
- DVI connector: DMS-59 with supplied break out cable to two standard DVI-D connectors
- Serial comms: 1 x 25 Way micro 'D', ITT Cannon MDSM-25PE

CameraLink
- CameraLink connector: High Density SDR-26
- 1 x SMA

Note that the card can be factory configured for DVI-D or analog video, but not both at the same time. This feature is not user configurable.

Environmental

Rugged Convection
- Temperature
  - Operating: 0°C to +70°C (with 300 ft/min airflow)
  - Storage: -55°C to +85°C

About GE Intelligent Platforms

GE Intelligent Platforms is a division of GE that offers software, control systems, services, and expertise in automation and embedded computing. We offer a unique foundation of agile and reliable technology providing customers a sustainable competitive advantage in the industries they serve, including energy, water, consumer packaged goods, oil and gas, government and defense, and telecommunications. GE Intelligent Platforms is headquartered in Charlottesville, VA. For more information, visit www.ge-ip.com.

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